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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,610

03/24/2006

Kevin Jon Williams

W1107/20010

7982

31717 7590 09/01/2009
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EXAMINER

HARRIS, ALANA M

ART UNIT

PAPER NUMBER

1643

MAIL DATE

DELIVERY MODE

09/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,610	WILLIAMS, KEVIN JON	
	Examiner	Art Unit	
	Alana M. Harris, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 168-171, 177, 180 and 183-206 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 168-171, 177, 180 and 183-206 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/23/2009; 08/10/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 168-171, 177, 180 and 183-206 are pending.
Claims 67, 172-176, 178, 179, 181 and 182 have been canceled.
Claims 168-171, 177 and 180 have been amended.
Claims have been added 183-206.
Claims 168-171, 177, 180 and 183-206 are examined on the merits.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Withdrawn Rejections

Claim Rejections - 35 USC § 112

3. The rejection of claims 168-171, 177 and 180 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn.
Claims 67, 172-176, 178, 179, 181 and 182 have been cancelled.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. The rejection of claims 168-171 and 177 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn in light of amendments and cancellation of claims. Claims 67, 172, 176 and 178 have been

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cancelled.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The rejection of claims 67 and 168-176 rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/07035 (published 19 February 1998) is withdrawn in light of the amendments submitted May 13, 2009. Claims 67 and 172-176 have been cancelled.

New Grounds of Rejection

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 168-171, 177, 180, 192-195 and 197-206 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 168, 169, 197 and 198 read on a kit comprising reference

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molecules consisting of a thrombospondin fragment, derivatized thrombospondin fragment, peptide derived from a thrombospondin fragment and derivatized peptide derived from a thrombospondin fragment and fragments or peptides corresponding to or within a region of thrombospondin. Applicants' specification acknowledges these derivatives however, Applicants' claims embody a host of molecules that range in structure and conformation, see specification pages 11, 13, 14, 27 and 41. The plethora of derivatives of thrombospondin molecules have not been identified in the claims and consequently the term embodies any molecule.

Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see page 115).

With the exception of an antibody that binds thrombospondin and fragments thereof, the skilled artisan cannot envision the detailed structure or activity of all binding agents and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and a reference to a potential method of isolating it. The polypeptide itself is required. See *Fiers v. Revel*, 25 USPQ 2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

Furthermore, In *The Regents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that while Applicants are not required to

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disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...requires a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention".

The specification does not evidence the possession of all the possible fragments, peptides and derivatives of thrombospondin to be implemented in the claimed invention, nor does the specification identify a plethora of thrombospondin fragments, peptides or derivatives.

The full breadth of the claims do not meet the written description provision of 35 U.S.C. 112, first paragraph.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 192-195 and 201-206 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 192-194 and 201-203 sets forth "means" within the claims, however there is no disclosure of structure, material or acts for performing the recited function, the claim fails to satisfy the requirements of 35 U.S.C. 112, second paragraph. Even though Applicants note in their Remarks filed May 13, 2009 that there is support

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for these means that does not absolve Applicants from setting forth corresponding claim language representative of structure.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 168-171, 177, 180, 183-191 and 197-200 are rejected under 35 U.S.C. 102(e) as being anticipated by Lander et al./ U.S. Patent number 6,727,063 B1 (filed September 7, 2000). Lander discloses sequence 2, which is the same as Applicants' SEQ ID NO: 1 (reference molecule) and SEQ ID NO: 38 (plasma thrombospondin), see alignment at close of rejection. Lander discloses a method for detecting the presence or absence of these proteins in a biological sample from a test subject and contacting the biological sample with a compound or an agent, such as antibodies capable of detecting the said proteins comprised within a kit, see bridging paragraph of columns 21 and 22; column 22, lines 31-56; bridging paragraph of columns 27 and 28; and column 28, lines 15-25. Biological samples include a range of fluid and tissue types except pure red blood cells, see column 10, lines 12-20. It is the Examiner's position that a plasma sample is included as a biological sample to assay.

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1.ra1 RESULT 20

US-09-657-472-2
; Sequence 2, Application US/09657472
; Patent No. 6727063
; GENERAL INFORMATION:
; APPLICANT: Lander, Eric S.
; APPLICANT: Cargill, Michele
; APPLICANT: Ireland, James S.
; APPLICANT: Bolk, Stacey
; APPLICANT: Daley, George Q.
; APPLICANT: McCarthy, Jeanette J.
; TITLE OF INVENTION: SINGLE NUCLEOTIDE POLYMORPHISMS IN GENES
; FILE REFERENCE: 2825.1027-001
; CURRENT APPLICATION NUMBER: US/09/657,472
; CURRENT FILING DATE: 2000-09-07
; PRIOR APPLICATION NUMBER: US 60/153,357
; PRIOR FILING DATE: 1999-09-10
; PRIOR APPLICATION NUMBER: US 60/220,947
; PRIOR FILING DATE: 2000-07-26
; PRIOR APPLICATION NUMBER: US 60/225,724
; PRIOR FILING DATE: 2000-08-16
; NUMBER OF SEQ ID NOS: 2551
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 1170
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-657-472-2

Query Match 100.0%; Score 31; DB 2; Length 1170;
Best Local Similarity 100.0%; Pred. No. 7.2e+02;
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TEENKE 6
|||||
Db 302 TEENKE 307

38.ra1 RESULT 1

US-09-657-472-2
; Sequence 2, Application US/09657472
; Patent No. 6727063
; GENERAL INFORMATION:
; APPLICANT: Lander, Eric S.
; APPLICANT: Cargill, Michele
; APPLICANT: Ireland, James S.
; APPLICANT: Bolk, Stacey
; APPLICANT: Daley, George Q.
; APPLICANT: McCarthy, Jeanette J.
; TITLE OF INVENTION: SINGLE NUCLEOTIDE POLYMORPHISMS IN GENES
; FILE REFERENCE: 2825.1027-001
; CURRENT APPLICATION NUMBER: US/09/657,472
; CURRENT FILING DATE: 2000-09-07
; PRIOR APPLICATION NUMBER: US 60/153,357
; PRIOR FILING DATE: 1999-09-10
; PRIOR APPLICATION NUMBER: US 60/220,947
; PRIOR FILING DATE: 2000-07-26
; PRIOR APPLICATION NUMBER: US 60/225,724
; PRIOR FILING DATE: 2000-08-16
; NUMBER OF SEQ ID NOS: 2551
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 1170
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-657-472-2

Query Match 100.0%; Score 6589; DB 2; Length 1170;

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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1170; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      1 MGLAWGLGVFLMHVCGTNRIPESGGDNVDFDIFELTGAARKGSGRRLVKGPDPSSPAFR 60
      |||
Db      1 MGLAWGLGVFLMHVCGTNRIPESGGDNVDFDIFELTGAARKGSGRRLVKGPDPSSPAFR 60

Qy     61 IEDANLIPPVPDDKFQDLVDAVRAEKGFLLLASLRQMKKTRGTLALERKDHSGQVFSVV 120
      |||
Db     61 IEDANLIPPVPDDKFQDLVDAVRAEKGFLLLASLRQMKKTRGTLALERKDHSGQVFSVV 120

Qy    121 SNGKAGTLDLSLTVQGKHVVSVEEALLATGQWKSITLFVQEDRAQLYIDCEKMENAE 180
      |||
Db    121 SNGKAGTLDLSLTVQGKHVVSVEEALLATGQWKSITLFVQEDRAQLYIDCEKMENAE 180

Qy    181 VPIQSVFTRDLASLARLRIAKGGVNDNFQGV LQNVRFVFGTTPEDILRNKGCSSTSVLL 240
      |||
Db    181 VPIQSVFTRDLASLARLRIAKGGVNDNFQGV LQNVRFVFGTTPEDILRNKGCSSTSVLL 240

Qy    241 TLDNNVVGSSPAIRTNYIGHKTKDLQAICGISCELSMVLELRGLRTIVTTLQDSIRK 300
      |||
Db    241 TLDNNVVGSSPAIRTNYIGHKTKDLQAICGISCELSMVLELRGLRTIVTTLQDSIRK 300

Qy    301 VTEENKELANELRRPPLCYHNGVQYRNNEEWTVDSCTECHCQNSVTICKKVSCPIMP 360
      |||
Db    301 VTEENKELANELRRPPLCYHNGVQYRNNEEWTVDSCTECHCQNSVTICKKVSCPIMP 360

Qy    361 ATVPDGECPCRCWPSDSADDGWSWSEWTSCSTSCGNGIQQRGRSCDSLNNRCEGSSVQT 420
      |||
Db    361 ATVPDGECPCRCWPSDSADDGWSWSEWTSCSTSCGNGIQQRGRSCDSLNNRCEGSSVQT 420

Qy    421 RTCHIQCEDKRFKQDGGWSHWSPSSCSVTCGDGVITRIRLCNSPSPQMNGKPCEGEARE 480
      |||
Db    421 RTCHIQCEDKRFKQDGGWSHWSPSSCSVTCGDGVITRIRLCNSPSPQMNGKPCEGEARE 480

Qy    481 TKACKKDACPINGGWGPSPWDICSVTCGGGVQKRSRLCNPAPQFGGKDCVGDVTENQI 540
      |||
Db    481 TKACKKDACPINGGWGPSPWDICSVTCGGGVQKRSRLCNPAPQFGGKDCVGDVTENQI 540

Qy    541 CNKQDCPIDGCLSNPCFAGVKCTSYPDGSWKCGACPPGYSGNGIQCTDVDECKEVPDACF 600
      |||
Db    541 CNKQDCPIDGCLSNPCFAGVKCTSYPDGSWKCGACPPGYSGNGIQCTDVDECKEVPDACF 600

Qy    601 NHNGEHRCENTDPGYNCLPCPPRFTGSQPFQGVGHATANKQVCKPRNPCTDGTDCNKN 660
      |||
Db    601 NHNGEHRCENTDPGYNCLPCPPRFTGSQPFQGVGHATANKQVCKPRNPCTDGTDCNKN 660

Qy    661 AKCNYLGHYS DPMYRCECKPGYAGNGIICGEDTDLGWPENENLVCVANATYHCKKDNC 720
      |||
Db    661 AKCNYLGHYS DPMYRCECKPGYAGNGIICGEDTDLGWPENENLVCVANATYHCKKDNC 720

Qy    721 LPNSGQEDYDKDGIGDACDDDDNDKIPDDRDNCFPHYNPAQYDYDRDDVGDRCDCNCPYN 780
      |||
Db    721 LPNSGQEDYDKDGIGDACDDDDNDKIPDDRDNCFPHYNPAQYDYDRDDVGDRCDCNCPYN 780

Qy    781 HNPDAQADTDNNGEGDACAADIDGDGILNERDNCQYVYNVDQRDTMDGVGDQCDNCPLEH 840
      |||
Db    781 HNPDAQADTDNNGEGDACAADIDGDGILNERDNCQYVYNVDQRDTMDGVGDQCDNCPLEH 840

Qy    841 NPDQLDSDSDRIGDTCDDNQDIDEDGHQNNLDNCPYVPANQADHDKDGKGDACDHDDDN 900
      |||
Db    841 NPDQLDSDSDRIGDTCDDNQDIDEDGHQNNLDNCPYVPANQADHDKDGKGDACDHDDDN 900

Qy    901 DGIPDDKDNCR LVPNPQKDSGDGGRGDACKDDFDHDSVPDIDDICPENVDISETDFRRF 960
      |||
Db    901 DGIPDDKDNCR LVPNPQKDSGDGGRGDACKDDFDHDSVPDIDDICPENVDISETDFRRF 960
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Qy      961  QMIFLDPKGT SQNDPNWVRHQGKELVQTVNCDPGLAVGYDEFNAVDFSGTFFINTERDD 1020
          |||
Db      961  QMIFLDPKGT SQNDPNWVRHQGKELVQTVNCDPGLAVGYDEFNAVDFSGTFFINTERDD 1020

Qy      1021 DYAGFVFGYQSSSRFYVVMWKQVTQSYWDTNPTRAQGYSGLSVKVVNSTTGPGHEHLRNAL 1080
          |||
Db      1021 DYAGFVFGYQSSSRFYVVMWKQVTQSYWDTNPTRAQGYSGLSVKVVNSTTGPGHEHLRNAL 1080

Qy      1081 WHTGNTPGQVRTLWHDPRHIGWKDFTAYRWRLSHRPKTGFIRVVMYEGKKIMADSGPIYD 1140
          |||
Db      1081 WHTGNTPGQVRTLWHDPRHIGWKDFTAYRWRLSHRPKTGFIRVVMYEGKKIMADSGPIYD 1140

Qy      1141 KTYAGGRLGLFVFSQEMVFFSDLKYECRDP 1170
          |||
Db      1141 KTYAGGRLGLFVFSQEMVFFSDLKYECRDP 1170

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Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 168-171, 177, 180 and 183-206 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lander et al./ U.S. Patent number 6,727,063 B1 (filed September 7, 2000), and further in view of Durbin et al. /U.S. patent number 5,922,551 (issued July 13, 1999). The teachings of Lander have been presented in the pending 102(e) rejection. Lander does not teach approaches for manipulating plasma in order to separate it for minimizing platelet activation and/or protease activity.

However, Durbin teaches various techniques for the separation of blood into plasma and its cellular components, and the like to avoid lysis of red blood cells to avoid the release of hemoglobin, which can interfere with diagnostic assays. Compounds such as heparin and clotting factors may be used to inhibit the aggregation of particles. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of

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the claimed invention was made to eliminate the presence of contaminating components in a biological sample. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success by teachings in all the references, assays involving physiological fluids should be prepared and performed optimally in order to obtain accurate results.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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17. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Alana M. Harris, Ph.D. whose telephone number is (571)272-0831. The Examiner works a flexible schedule, however she can normally be reached between the hours of 7:30 am to 6:30 pm, with alternate Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Larry R. Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alana M. Harris, Ph.D.
28 August 2009
/Alana M. Harris, Ph.D./
Primary Examiner, Art Unit 1643